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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/486,530	06/01/2000	PETER CHARLES FLORENCE	P/25-254	8653
2352	7590	12/06/2006	EXAMINER KIM, KEVIN	
OSTROLENK FABER GERB & SOFFEN 1180 AVENUE OF THE AMERICAS NEW YORK, NY 100368403			ART UNIT 2611	PAPER NUMBER

DATE MAILED: 12/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/486,530

Applicant(s)

FLORENCE ET AL.

Examiner

Kevin Y. Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 34-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 34-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Amendment*

1. The indicated allowability of claims 34-37 is withdrawn in view of the newly discovered reference(s) to Sointula (US 6,091,780) and Leung (US 6,064,871). Rejections based on the newly cited reference(s) follow.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 34-37 are rejected under 35 U.S.C. 102(e) as being anticipated by Sointula (US 6,091,780).

Claim 34.

Sointula discloses a communications device (see Fig.8), comprising:

means (506 shown in Fig.5) for receiving a modulated radio-frequency signal;

means (803) for down-converting said received modulated radio-frequency signal to a modulated intermediate-frequency signal;

means (806) for digitizing said modulated intermediate-frequency signal;

means (807) for exporting said digitized, modulated intermediate-frequency signal to a main processor (DSP) in a personal computing device; and

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software means, operating on said main processor of said personal computing device, comprising instructions for performing all aspects of handling said digitized, modulated intermediate-frequency signal in order to demodulate said digitized, modulated intermediate-frequency signal. See col. 11, line 65 ~ col.12, line 17 and Fig.12B. It should be noted that the hardware elements inside the DSP for the purpose of demodulation are provided to illustrate the functions performed by the instructions stored in the DSP as such is well known in the art.

**Claim 35.**

The software means operating on said main processor, comprises instructions for transcoding said digitized, modulated intermediate-frequency signal to produce an audio frequency signal. See Data Reconstruction Circuit (811).

**Claim 36.**

The software means operating on said main processor, further comprises instructions for decoding said audio frequency signal to produce a binary digital signal.

See the computing device comprises a phones such decoding said audio frequency signal to produce a binary digital signal is required. See Fig.3.

***Claim Rejections - 35 USC § 103***

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

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5. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sointula as applied to claim 36 above.

Sointula discloses all the subject matter claimed except that the signal comprises a COFDM signal and a QAM signal. However, COFDM and QAM are well known modulation schemes in the art and thus would have been obvious alternative schemes to frequency hopping employed in the terrestrial GSM cellular network, an embodiment of Sointula.

6. Claims 34-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leung et al (US 5,444,697 previously cited) in view of Leung (US 6,064,871).

Leung et al discloses a communication apparatus comprising;

means (an antenna coupled to or part of FM Receiver) for receiving a modulated radio-frequency signal;

means (43) for down-converting said received modulated radio-frequency signal to a baseband signal;

means (61) for digitizing said signal;

means (60 to 70) for exporting said digitized signal to a main processor (72) in a personal computing device (70); and

software means, operating on said main processor of said personal computing device, comprising instructions for performing all aspects of handling said digitized, signal in order to demodulate said signal. See col. 11, line 65 ~ col.12, line 17 and Fig.12B.

The claimed invention is different in that the intermediate frequency signal is digitized and thus digitized IF signal is provided to the computer for demodulation.

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However, it is well known in the art to digitize IF signal and to perform subsequent digital demodulation in order to overcome requirement of complex analog signal processing circuitry, as described in the patent to Leung. See col.1, lines 16-23. Thus, it would have been obvious to one skilled in the art at the time the invention was made to provide a digitized IF signal to the computer for digital demodulation for the purpose of simplifying the analog receiver (43) as taught by Leung.

Claim 35 and 36.

The software means operating on said main processor, comprises instructions (70) for transcoding said digitized, modulated intermediate-frequency signal to produce an audio frequency signal.

Claim 37.

Leung et al teaches the reception of OFDM and the claimed COFDM is a variation of OFDM. Leung et al also describes QAM demodulation (72).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Y. Kim whose telephone number is 571-272-3039. The examiner can normally be reached on 8AM --5PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

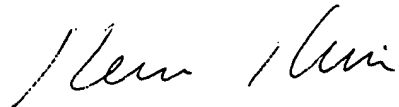
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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

December 4, 2006

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KEVIN KIM  
PRIMARY PATENT EXAMINER

A handwritten signature in cursive script, appearing to read 'Kevin Kim', is written over the printed name and title.